

REMARKS

Summary Of The Office Action & Formalities

Claims 1, 3-7, 9-12 and 15-36 are all the claims pending in the application.

Submitted herewith is a Petition for Extension of Time with fee.

The prior art rejections are summarized as follows:

1. Claims 1, 3-7, 9-12 and 15-36 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Minabe (USP 5,961,394).

Applicant respectfully traverses.

Claim Rejections - 35 U.S.C. § 103

1. Claims 1, 3-7, 9-12 and 15-36 In View Of Minabe (USP 5,961,394).

The present Office Action is in response to Applicant's Request for Continued Examination ("RCE") and the Amendment under 37 C.F.R. § 1.114 filed therewith on January 20, 2004, in which Applicant traversed the Examiner's rejection under 35 U.S.C. § 103 of the then pending claims in view of Minabe.

In the present Office Action, the Examiner states: "Applicant's arguments with respect to claims 1, 3-7, and 9-18 have been considered but are moot in view of the new ground(s) of rejection." Office Action at page 5. Applicant disagrees.

The current grounds of rejection are substantively the same as those set forth in the previous Office Action of July 18, 2003, with the notable exception that the Examiner no longer explicitly relies on "Official Notice" with respect to the admitted deficiencies in Minabe. In the last response, Applicant challenged the Examiner's reliance on "Official Notice" to force the

examiner to cite one or more references in support of the rejection and to set forth the requisite motivation, disclosed in the prior art, to make the necessary modifications to the golf club head of Minabe.

In the present Office Action, rather than rely on any prior art in an attempt to make up for the admitted deficiencies in the disclosure of Minabe, the grounds of rejection merely make conclusory statements that the missing elements are obvious. In this respect, the grounds of rejection in the present Office Action are even less convincing than those in the last Office Action, and Applicant's remarks in the response of January 20, 2004 remain very pertinent. Accordingly, Applicant incorporates herein by reference those remarks in their entirety. In addition, Applicant traverses the present rejection on the following grounds.

As stated in the Manual of Patent Examining Procedure ("MPEP"):

To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. . . . Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

MPEP § 2143. Furthermore, as the Federal Circuit makes clear that the USPTO is held to a rigorous standard when trying to show that an invention would have been obvious in view of the combination of two or more references. See, In re Lee, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002), citing, e.g., In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999) ("Our case law makes clear that the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a showing of the teaching or motivation to combine prior art references.").

The Federal Circuit goes on to emphasize that the “need for specificity pervades this authority.” In re Lee at 1433 (emphasis added) (citing In re Kotzab, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000) (“particular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected these components for combination in the manner claimed”).

Applicants respectfully submit that the current grounds of rejection do not satisfy the MPEP’s and the Federal Circuit’s rigorous standard for demonstrating that the claimed invention would have been obvious in view of Minabe and the alleged general knowledge set forth in the grounds of rejection.

In rejecting claims 1, 3-7, 9-12 and 15-36 in view of Minabe (USP 5,961,394), the grounds of rejection state:

Regarding 1, 7, 15-16, and 23, Minabe discloses a wood-type, golf club head comprising a shaft 26 attached to a hollow metal head 12 wherein the metal head (Figure 1) including a plurality of pieces (upper surface 20, side periphery bottom surface 22, face member 10) are welded together by laser welding (Col. 4, lines 1-14). With respect to the face member having a plurality of pieces and fixed together by laser welding, it is conventional for golf club’s manufacture to fabricate the club head body into plurality of pieces to facilitate assembly, optimize mass distribution, and improve structural strength. Minabe discloses joining of club parts by laser welding technique, but does not disclose laser welding the face member including a plurality of pieces. However, Applicant should note that by providing a plurality of face pieces, then laser welding the pieces together will inherently result more welding seams and labor cost. These welding seams of the face member now have more stress concentration, which increases the likelihood for premature failure of the face member during its lifetime usage. Addition, it would have been obvious in view of Minabe to one having ordinary skill in the art to either laser welding a single piece face member or

laser welding face member with plurality of pieces since welding a single face member or welding a plurality of face members is merely a duplication of welding process for joining club parts.

Office Action at pages 2-3. Applicant disagrees.

Beginning with the requirement that the prior art reference must teach or suggest all the claim limitations, Minabe does not teach or suggest metal pieces that appear on a common surface of the head and are fixed together by laser welding. In particular, Minabe does not teach or suggest metal pieces that “appear on striking face of the head and are fixed together by laser welding,” as recited in claim 1, for example.

Nor does Minabe teach or suggest a compounded metal plate fabricated by fixing together by laser welding metal pieces that appear on the striking face of the head as recited in amended claim 7. When using a plurality of metal pieces that are of different metals for a common surface, the pieces provide a visibly aesthetic effect and permit one to modify the performance of the golf club head.

Referring to the exploded view in Fig. 1 of Minabe, this reference discloses a golf club having a single piece face member 10 welded to the head body 12 along the fixing portion 14. See Minabe at column 2, lines 54-65. The head body 12 is made of two parts: an upper surface “flat crown” 20 and a side peripheral bottom surface 22. See Minabe at column 2, line 66 to column 3, line 1.

Indeed, the Examiner’s grounds of rejection acknowledge the above deficiencies in Minabe, but rely on the following conclusory statement to maintain the rejection: “[w]ith respect to the face member having a plurality of pieces and fixed together by laser welding, it is

conventional for golf club's manufacture to fabricate the club head body into plurality of pieces to facilitate assembly, optimize mass distribution, and improve structural strength." Nowhere does the Examiner point to an actual prior art disclosure that supports this statement.

Accordingly, this portion of the grounds of rejection is no more persuasive than taking Official Notice, and in view of Applicant's last response, is insufficient to meet even the most basic requirements for finding a claim invalid under 35 U.S.C. § 103.

In fact, the disclosure in Minabe would teach away from Applicant's invention. Rather than disclosing a plurality of pieces welded on a common surface, let alone the striking face in particular, Minabe explicitly discloses the use of a single piece for each surface. As such, Minabe teaches away from Applicant's claimed invention. See, In re Hedges, 228 USPQ 685, 687 (Fed. Cir. 1986) (concluding that prior art references that "teach away" from a claimed invention provide "strong evidence of unobviousness"). See also MPEP § 2141 (mandating that "the references must be considered as a whole," and, therefore, requires the Examiner to consider and confront those passages of Minabe that lead away from the claimed invention).

Furthermore, by joining the metal pieces together using a *high energy welding*, such as *laser welding*, deterioration of the metal pieces at the weld joint is minimized or eliminated, thereby ensuring a smooth, uninterrupted outer common surface. The compound part is then suitable for post-machining, such as a plastic working. By laser welding pieces to form an outside common surface followed by plastic working, such as press-forming, these pieces provide a very flat and durable member. In comparison, if conventional welding techniques are used to weld pieces

together, the resulting compound structure will not have a smooth, uninterrupted surface and would not be as durable.

Regarding the requirement to have the plurality of pieces joined by laser welding, as quoted above, the grounds of rejection acknowledge “Minabe does not disclose[] laser welding the face member including a plurality of pieces.” Office Action at page 3. In fact, Minabe would, again, teach away from this feature. For example, the Examiner’s own statement is evidence of this teaching away:

providing a plurality of face pieces, then laser welding the pieces together will inherently result [in] more welding seams and labor cost. These welding seams of the face member now have more stress concentration, which increases the likelihood for premature failure of the face member during its lifetime usage.

Office Action at page 3. Therefore, even by the Examiner’s rationale, one skilled in the art would not have been motivated to include a plurality of pieces welded together on a common surface of the golf club head. Indeed, the Examiner’s same rationale contradicts his next position that “welding a single face member or welding a plurality of face members is merely a duplication of welding process for joining club parts.”

Aside from the fact that Minabe and the Examiner’s above rationale would teach away from providing a plurality of pieces on a common surface, the grounds of rejection do not point to any prior art disclosure the teaches or suggests that the provision of a plurality of pieces on a common surface provides the added advantage of being able to precisely vary the weight distribution, precisely control the hitting feel of the club head, perform post working of the surface, and vary the aesthetic look of the club head. Clearly, the provision of a plurality of

pieces would not, therefore, involve the mere duplication of parts. Applicant also refers the Examiner to the comparative examples in the specification demonstrating certain distinct advantages of the present invention.

Regarding claims 3-4 and 9-10, the grounds of rejection state:

Minabe discloses a face member 10 with thickness ranging from 2.5-3.5 mm and head body 12 with thickness about 1.2 mm (Col. 3, lines 25-37), and different alloy materials can be welded together.

Office Action at page 3. Applicant disagrees.

The grounds of rejection here ignore Applicant's previous arguments in support of these claims. The disclosure in Minabe of "a face member 10 with thickness ranging from 2.5-3.5 mm and head body 12 with thickness about 1.2 mm (Col. 3, lines 25-37)" does not teach or suggest metal pieces having different thicknesses fixed together on a common surface by means of laser welding the features. Again, a fair reading of this disclosure would discourage one of skill in the art from constructing such a club head, since it discloses that the single piece face member has a certain thickness range, including a thin-walled portion which is formed by cutting, not by the assembly of multiple pieces. See, e.g., Minabe at column 4, lines 32-47. Again, the Applicant cautions the Examiner against construing the language "common surface" to include multiple surfaces (or faces/sides) of a golf club head. Such an unreasonably broad construction violates Applicant's own definition provided in the specification and would not have been adopted by one skilled in the art.

For similar reasons, Applicant disagrees that any disclosure in Minabe of different alloy materials for the face member and the head body teaches or suggests metal pieces made of different metals fixed together on a common surface by laser welding as required by claims 4 and 10.

Regarding claims 5, 6, 11, and 12, the grounds of rejection state:

Minabe's club head appears to disclose least 60% of the metal pieces are made of the same material (Col. 3, lines 4, lines 23-27) and the difference in melting points between metal pieces less than 250° or less.

Office Action at page 3. Applicant disagrees.

The disclosure relied upon by the Examiner is with reference to a single piece member, not one made up of a plurality of pieces. Claims 5 and 6 are clearly directed to the differences in the materials of the individual pieces that make up the common surface.

Regarding the welding feature, the grounds of rejection state:

With respect to laser welding the metal pieces so that the metal pieces appear on an outside common surface of the striking face member in claim 7, Minabe shows laser welding of the face member 10 with the head body 12 along the periphery front edge and welding along the periphery edge is on the outside common surface of the striking face.

Office Action at page 3. Applicant disagrees.

The fact that Minabe teaches laser welding a single face piece along its peripheral edge would teach away from having a plurality of pieces welded together on a common surface as claimed.

Regarding claims 17 and 18, the grounds of rejection state:

Minabe shows the welding of outer piece (22) overlapping the inner piece (10).

Office Action at page 3. Applicant disagrees.

Claims 17 and 18 do not recite welding an outer piece overlapping an inner piece. To the contrary, the claims require one piece to surround another. Moreover, pieces 22 and 10 in Minabe are not on a common surface and would, therefore, teach away from this aspect of Applicant's invention.

Regarding claim 19, the grounds of rejection argue that

Minabe appears to show the laser welding surface form of a smooth continuous surface.

Office Action at page 4. Applicant disagrees.

In fact, in Minabe, the welding is on the peripheral outer edge of the single plate and, therefore, would teach away from pieces fixed together by laser welding to form a smooth continuous common surface.

Regarding claims 20, 33, and 34, the grounds of rejection argue that

Minabe discloses the face member 10 is plastically deformed to form the face shape by forging process. (Col. 3, lines 40-41). Regarding claim 33, it is conventional to sand and/or buff or post machining to remove the burr resulting from laser welding and it would have been obvious to do so here to provide a smooth finish surface for priming and painting. Regarding claim 34, it is conventional to manufacture metal parts by rolling, forging, casting, stamping, and punching, and it would have been obvious to do so here to facilitate assembly.

Office Action at page 4. Applicant disagrees.

While it may be conventional to forge or deform a single metal piece that forms the entire face of a golf club head, clearly there is no teaching or suggestion in Minabe to weld together a plurality of pieces to form a single part and subsequently perform post-machining to this part to form a golf club surface (face, top, bottom, or side).

The Examiner rejects claims 21 and 22 for the same reasons as those set forth in the rejection of claims 7 and 19. Applicant submits that these claims are allowable for at least the reason that the applied art does not teach or suggest a plurality of metal pieces on an outside common surface of the head and fixed together by welding, the welding process resulting in a smooth continuous outside common surface.

Regarding claims 24, 27, and 30, the grounds of rejection state:

Minabe discloses a hollow club head body 12 comprising a shaft (26), opening in the crown (Fig. 1). Minabe does not disclose expressly a crown member made of a plurality of pieces and the piece appears on the outside of the crown member and fixed by laser welding; and a side wall member made of plurality of pieces and the pieces appears on the outside of the crown member. However, providing a crown member, a side wall member, and a sole member with one piece, two pieces, three pieces, and so on, and joining these pieces by laser welding to form a club head is merely a duplication of forming plural club parts and duplication of welding process. It would have been obvious in view of Minabe to one having ordinary skill to manufacture club head with a few parts or multiple club parts and joining a few club parts or multiple club parts by laser welding technique, since providing club parts into plurality of pieces are merely a duplication of making smaller club parts, which inherently increases labor cost and reduces strength in the club head body.

Office Action at page 4. Applicant disagrees.

Again, for reasons similar to those already explained above in support of claim 1, neither Minabe, nor any other cited art teaches or suggests a plurality of metal pieces on an outside common surface of the head and fixed together by welding. To the contrary, the disclosure of Minabe would teach away from this feature.

Regarding claims 25, 26, 28, 29, 31, 32, 35, and 36, these claims are rejected for reasons traversed above in connection with claims 1, 33, and 34 above.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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